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The New "A" in MAGTF

by

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A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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The introduction of the short takeoff and vertical land Joint Strike Fighter (STOVL JSF) will not only increase the organic capabilities of a MEU, but will also provide CINCs with additional response options across the entire spectrum of conflict. By allowing expeditionary forces to attack the entire scope of enemy strengths and rapidly respond to any crisis as it develops, STOVL JSF will bridge the gap between current capabilities and the future of amphibious warfare.

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ABSTRACT

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> The future battle on the ground will be preceded by battle in the air. This will determine which of the contestants has to suffer operational and tactical disadvantages and be forced throughout the battle into adopting compromise solutions.
>
> Erwin Rommel

Introduction

Threats to our national security have become increasingly complicated and unpredictable since the end of the cold war. The combatant commanders in chief (CINCs) now face a variety of adversaries whose multifaceted military capabilities continuously challenge our nation's political resolve.[1] While CINCs control many options to respond globally to the entire spectrum of conflict, today's Naval Expeditionary Forces (NEFs) offer a flexible range of options covering peacetime missions, crisis and conflict.[2] A NEF's value rests in its ability to offer a visible deterrence option as well as perform missions ranging from humanitarian assistance to a hostile forcible entry. NEFs can indefinitely operate from the sea, eliminating basing requirements and reducing host nation restrictions that can stifle U.S. policy initiative.[3] While naval forces contribute the seaward element of naval expeditionary power projection, Marine expeditionary forces contribute the landward extension of a NEF's capabilities.

Marine expeditionary forces vary in size but all contain command, aviation, ground, and sustainment elements. Designated Marine Air Ground Task Forces (MAGTFs), these units can operate from expeditionary land as well as sea bases; moreover, they can expand in size without sacrificing operational continuity or tempo. This is critical since a CINC's need for rapid response may mean that the initial force at the scene of a developing crisis may not

be the decisive force. The Marine Expeditionary Unit (MEU), deployed within an Amphibious Ready Group (ARG), has traditionally represented that initial force.

As the basic, forward deployed nucleus of larger expeditionary forces, MEUs have executed and participated in operations ranging the entire spectrum of conflict. The good news for CINCs is that capabilities resident within a MEU are getting better. Upgrades to technology and the replacement of outdated combat platforms will result in increased effectiveness in all missions executed by Marine expeditionary forces. Of specific interest for this discussion is the introduction of the Marine Corps' short takeoff and vertical land Joint Strike Fighter (STOVL JSF).

STOVL JSF's introduction, while only one of the many improvements Marine expeditionary forces will realize in the next 5-10 years, represents the greatest advancement to the capabilities of amphibious forces since the introduction of the helicopter. With this in mind, CINCs will need to reevaluate the way they utilize forward deployed MEUs once fleet introduction of the JSF is realized.

Method of Analysis

By discussing recent MEU operations, I will identify some of the challenges and limitations these forces face today. The discussion will focus on MEU efforts in small-scale contingency (SSC) scenarios and above. For the purpose of this discussion, and to keep in line with the latest joint pub terminology, small-scale contingencies refer to those military operations other than war (MOOTW) involving the use or threat of force. MOOTW not involving the use or threat of force (e.g., peacekeeping and humanitarian assistance), will not be explored in depth. The added advantages of STOVL JSF in these lower intensity operations will be implicit once the capabilities at the SSC level and above are developed.

Finally, after examining the CINC's current operating environment and establishing his constraints, I will show how the increased capabilities of a STOVL JSF equipped MEU will expand the ARG's employment opportunities and give the CINC additional response options across the entire spectrum of conflict.

Current MEU Capabilities/Limitations

> ...Multi-mission capable aircraft that operate from a variety of ships and austere bases ashore are required to provide the expeditionary force with immediate support.[4]

The forward deployed MEU, with its ability to rapidly expand into a larger force and independently execute many SSC missions, has been one of the most versatile and capable forces available to a CINC. A typical MEU includes a reinforced infantry battalion and a composite helicopter squadron that contains a detachment of AV8-B Harrier attack aircraft. Special training enables MEUs to execute SSC missions of varying intensity. Disaster relief, demolition operations, raids, in extremis hostage recovery and tactical recovery of aircraft and personnel (TRAP) are all MEU capable missions that demonstrate the flexibility of these forces. However, the absence of an organic fighter-attack platform has at times forced CINCs to augment ARGs in order to accomplish missions at the SSC level.

Two recent examples of Marine expeditionary force employment demonstrate the limitations of current MEUs. Operation Silver Wake, the NEO of Albania in 1997, and Operation Allied Force, the air operation against Former Yugoslavia in 1999 both exposed significant MEU weaknesses in different areas of conflict.

JTF Silver Wake

In March of 1997, the U.S. Secretary of Defense directed Joint Task Force (JTF) Silver Wake to conduct noncombatant evacuation operations (NEO) of American citizens from Albania and to protect the U.S. embassy in Tirana. The operation was necessitated by civil

unrest in Albania resulting in the breakdown of government authority. While not considered a hostile situation, the NEO in Albania was certainly not permissive. The possibility of violence spreading to the embassy was high. Additionally, very capable Albanian air defense assets were under questionable control.[5] Because the MEU executing the NEO lacked the capability to contend with the potential air defense threats, CJTF Silver Wake (COMSIXTHFLEET) was forced to source fighter assets from the 16th Air Force in Aviano, Italy.

The situation in Albania grew more and more unstable throughout the NEO. Helicopters from the 26th MEU encountered sporadic antiaircraft fire and shoulder fired surface to air missiles. 16th Air Force F-16s intercepted several Albanian MIG-19 aircraft. Marine F-18Ds and EA6Bs, also from Aviano, provided suppression of enemy air defense (SEAD) support against SA-3 and 8 Surface to air missile systems. In the end, JTF Silver Wake successfully evacuated 889 personnel over a two week period without loss of life or equipment.[6] These results were due, in part, to the efforts of the 16th Air Force; however, their contributions came at a cost.

At the time JTF Silver Wake was formed, the 16th Air Force was enforcing NATO sanctions in Bosnia-Herzegovina as part of Operation Deliberate Guard. Not only were needed fighter assets removed from the Deliberate Guard Air Tasking Order (ATO); but also, the airborne refueling requirements for JTF Silver Wake were enormous. Round trip distance from Aviano to the Albanian operating area was over 1200 miles. Had the MEU possessed organic fighter and SEAD capabilities, the negative impact on Deliberate Guard operations could have been dramatically reduced. In larger scale operations, Allied Force for example, Marine expeditionary forces displayed limitations beyond that of simple force protection.

Operation Allied Force

In January 1999, the massacre of ethnic Albanians in Kosovo resulted in NATO operation Allied Force against the Former Republic of Yugoslavia (FRY). JTF Noble Anvil, commanded by CINCUSNAVEUR, accepted the task of providing U.S. support to Allied Force. The 24th and 26th MEUs along with aircraft from the USS *Theodore Roosevelt* (CVN-71) comprised the U.S. Naval aviation elements in this operation. Although combined Navy/Marine airpower destroyed/damaged more than 445 tactical targets and more than 88 fixed targets, the fixed wing attack aircraft from the MEU played a limited role.[7]

Air operations against the FRY became heavily dependent on precision strike technology, both laser and GPS guided weapons. Without a self-lasing or GPS precision strike capability, the AV-8Bs from the two MEUs experienced a reduced priority status on the Allied Force ATO. The Harriers from these two MEUs only contributed 38 sorties to the Kosovo air operation.[8] The Marine Corps attempted to alleviate this deficiency by sourcing aircraft from the continental U.S. for Allied Force. F-18D Hornets from MCAS Beaufort, S.C. were flown into theatre for their GPS and reconnaissance capabilities; however, mobilization, deployment and basing issues at Taszar airfield in Hungary proved so difficult that these assets did not become operationally effective until 60 days into the 78 day air operation.

As we can see from these two examples, recent MEU operations have identified some operational weaknesses. Whether it's an uncertain NEO or a full scale regional conflict, the lack of an advanced fighter-attack platform has undermined the potential capabilities of a MEU and raised doubts about its future applications by a CINC. To complicate matters

further, the CINCs operating environment is changing. As it does, the need for robust, forward deployed forces that possess a rapid response capability will increase.

The CINC's World

> As the global economy grows and becomes more interdependent, instability-anywhere-becomes less and less tolerable.[9]

Instability in distant parts of the world continues to threaten the economic and security interests of the United States. It is clear that as the global environment changes we must, through military means, preserve regional stability and protect our access to critical economic resources. The forces we employ must continue to operate across the entire spectrum of conflict; however, the CINC's new challenge has become a changing threat. The age of large scale, impressive weaponry and theatre level conflict is fading. Crises resulting from arms proliferation, finite natural resources, and long standing rivalries will force us to respond to a more diverse, non-traditional type of enemy.

Today's enemies have studied our weapons, responsiveness and tactics. As a result, they will avoid force on force conflict and attempt to fight us were we are least able to employ our forces. To do this, they will deny us access to forward locations and attack our critical weaknesses (i.e., command and control links and logistics nodes). Additionally, transnational dangers (e.g., infrastructure attacks, terrorism, insurgency), are quickly becoming the number one threat to regional stability.[10] Uninhibited by borders or international policy, today's threats require as determined a response from a CINC as would a full-scale regional conflict.

CINCs will need to act as quickly and as decisively as possible to initiate a determined response against today's fragmented, complex threats.

> I haven't seen (a) crisis yet that didn't have a lot of indicators saying that it was getting worse. If we could somehow act before the period of extremis-the eleventh-hour kind of thing, when perhaps it's too late for anyone to do much about it-then naval forces, meaning this great Navy and Marine Corps force projection capability, could be moved forward to these areas in a timely manner, and perhaps not even have to be employed.[11]

The more immediate the CINC's response the more he can control events. Time equates to political leverage.[12] For decades CINCs have depended upon a robust forward presence, both land and sea, to facilitate a rapid response. Here again, changes to the global environment are degrading the CINC's ability to decisively handle crisis response.

The number of accessible airfields and useable bases worldwide is diminishing and negatively impacting the CINC's capability to maintain a forward presence.

> Our permanent overseas land based presence, particularly along the Pacific-Indian Ocean-Persian Gulf littoral, is not likely to expand - for both domestic economic and international political reasons. Thus the only viable solution for maintaining a presence in this region will be to maintain a robust Naval power projection capability.[13]

The need for an independent amphibious capability has never been greater. Forward presence will soon mean less host nation support and more sea basing flexibility. This inevitable reliance on sea basing may have a silver lining.

Through its mobility and responsiveness, sea basing provides operational depth and a tempo advantage that is conducive to countering the developing threats outlined above. Sea basing allows us to reduce our land based vulnerabilities as independent amphibious operations remove the dangerous reliance on port facilities. In order for forward deployed naval expeditionary forces to realize the advantages of sea basing, they have to possess the capability to <u>independently</u> execute missions at the SSC level. Additionally, since sea basing is unlikely to satisfy the political and military needs of a lengthy theatre engagement, NEFs must be able to execute forcible entry operations. These forcible entry capabilities must be of a large enough scope to support sustained operations beyond the SSC level. I would argue

that a STOVL JSF equipped MEU will be perfectly suited for both of these roles as well as the new demands placed upon forward deployed forces. STOVL JSF will increase the effectiveness of amphibious forces by addressing current MEU limitations and providing NEFs with the robust, independent capability needed by the CINC.

STOVL JSF and the MEU

STOVL JSF adds a multitude of capabilities that current MEUs lack. This aircraft will employ:

1. A multi-function targeting array that includes electro-optical and infrared sensors.
2. A communications system that will allow passive and cooperative engagement capabilities.
3. Carriage and more accurate employment of every weapon, unguided and guided, in the inventory.
4. A combat radius (500 nm) that easily exceeds that of the F-16/18 and nearly doubles that of the AV8-B.
5. A reconnaissance capability that will provide synthetic aperture radar (SAR) maps with accuracies down to one foot.
6. An integrated electronic counter measures suite that, when combined with the airframe's low observable technology, will greatly enhance survivability.[14]

These added capabilities will enable the air component of a MEU to execute all 5 functions of Marine aviation, by itself. With the ability to perform deep and close air support (DAS/CAS), SEAD, anti-air warfare, reconnaissance, and electronic warfare, STOVL JSF will be the premier fire support platform for the MAGTF. This will have a huge impact on an ARG's effectiveness and give CINCS a much more robust, independent forward deployed force.

Operational Implications of STOVL JSF

An ARG that is capable of providing every element of aviation support to its own assault forces has important operational implications for a CINC. One of the lessons of Operation Allied Force, and the main reason Harriers didn't really contribute, was the

eventual dependence on GPS guided weapons. Despite extensive efforts by coalition forces, air superiority was never achieved and the FRY's ability to track NATO aircraft was never denied. Stand off GPS guided weapons provided a flexible, accurate, lethal, all weather alternative to conventional strike aircraft and weapons.[15] More importantly, the employment of GPS guided weapons did not require extensive use of counter air defense suppression.[16] With a GPS precision strike capability, STOVL JSF will operate in all environments, permissive or not, and support a wide range of contingency operations.

Another operational implication for CINCs deals with sea basing. STOVL JSF takes the previously discussed advantages of sea basing one step further. Carriers, large deck amphibious ships, austere airfields and roads are all demonstrated options available to sortie the STOVL JSF. Figure 1 shows the number of runways available worldwide for STOVL JSF compared to conventional takeoff and land (CTOL) aircraft (in this example CTOL

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Worldwide Runway Availability

Aircraft	Runways available within an Operational Theater					
	North Korea	Taiwan	Serbia	Zaire	CVN	LHA
All JSF w/ Int/Ext Ordnance (10,000' Rwy)	8	8	23	6		
CTOL JSF w/ Int Ordnance (8,000' Rwy)	35	18	111	8		
STOVL JSF w/ Int/Ext Ord and C-17 Support(4,000' Rwy)	57	25	148	22		
STOVL JSF w/ Int/Ext Ord (<2,000' Rwy)	58	40	151	23	12	12

Full operational capability from 3X to 8X as many airfields
and
2X as many flight decks

Figure 1

JSF)[17].

The illustration demonstrates the reduced need for developed land bases. This allows an ARG to extend the littoral operating area away from dangerous coastal waters. The 500 mile combat radius of the STOVL JSF provides an excellent DAS capability (without refueling) from these operating areas outside the littorals. When situations require more on station time for CAS missions, the STOVL JSF can take advantage of its land based flexibility. For example, with full internal ordnance a STOVL JSF can takeoff from an LHA/LHD, fly 100+ miles inland to an austere site to refuel, then support ground operations for over 45 minutes before returning to the LHA/LHD (Figure 2).[18]

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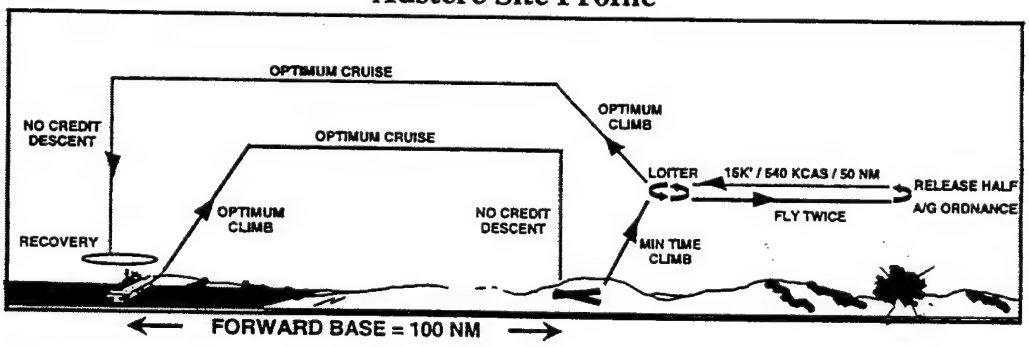
STOVL Performance

Austere Site Profile



The STOVL JSF must be capable of landing at an austere site landing strip with two internal 1000# JDAMs and two internal AIM-120s (compressed carriage), full expendables, and fuel sufficient to fly the austere site mission profile. The STOVL JSF must then be capable of executing a STO from the austere site landing strip and flying the austere site mission profile to recover at an LHA/LHD/CVN/UK CVS.

Figure 2

The STOVL JSF will be an evolution in the employment of sea based aviation assets. "STOVL Tac Air doesn't compromise capability and through mobile, forward basing ashore, as well as at sea, enhances survival while increasing responsiveness and sortie generation rates."[19] Fixed, hardened airfields are a consequence of outdated, defensive thinking. STOVL JSF will increase the effectiveness of the aviation arm of the MAGTF across the whole spectrum of conflict, from flexible deterrent options (FDO) to large-scale regional conflicts.

The STOVL JSF equipped MEU and CINC missions

The advanced capabilities of the STOVL JSF will provide MEUs with increased effectiveness for all assignable missions. Noteworthy are those at the SSC level and below that MEUs will be expected to, and will be quite capable of, executing independently.

The multi-role STOVL JSF will, in itself, be capable of providing CINCs with FDOs now absent in a MEU. From electronic interference and jamming to strategic reconnaissance, an ARG with an over the horizon, no warning attack capability can also facilitate escalation of decisive force should FDOs become or be rendered ineffective. At the SSC level, STOVL JSF advantages will be more readily apparent.

SSC missions will require the executing force to stop or contain hostilities so as to create more secure conditions for the accomplishment of other objectives.[20] Although large well organized resistance is unlikely, any operation in this environment, even a hostile peace enforcement mission, could be subject to civil violence or low intensity fighting. With STOVL JSF, a MEU will be more capable of handling these missions. Unlike JTF Silver Wake, a STOVL JSF equipped MEU will be able to provide its own force protection (i.e., SEAD, AAW) as well as precision fixed wing assault support (i.e., battlefield interdiction,

and armed reconnaissance). Other SSC missions where STOVL JSF will demonstrate capabilities are limited strikes, no fly zone enforcement, and freedom of navigation operations. During regional conflicts or major theatre wars, STOVL JSF advantages will be realized when the MEU acts as an enabling force.

Faced with a forcible entry scenario, CINCs will likely direct NEFs to act as an enabling force. Amphibious forces possess the flexibility, responsiveness, self-sustainability and, with STOVL JSF, the muscle to successfully execute forcible entry operations. Some may argue against the feasibility of forcible entry operations versus well equipped hostile forces. Increases in the capability of modern weapons, situational awareness and more heavily defended littoral areas have made opposed amphibious assaults a costly venture. Despite these issues, CINCs will still need a swift decisive means to seize both the operational and strategic initiatives. This may mean, certainly against a lightly defended or benign objective, the establishment of a military lodgment to rapidly build combat power ashore.

CJCSM 3500.05, the Joint Task Force Headquarters Master Training Guide, describes forcible entry operations as the initial phase of a contingency or campaign. It therefore requires joint forces to maintain the capability "to seize a military lodgment to create maneuver space and provide for continuous entry of forces and material for follow on operations."[21] The STOVL JSF equipped MEU has greatly improved its forcible entry capabilities; moreover, a MEU tasked with a forcible entry operations will have less reliance on external aviation support from a carrier battle group or aerospace expeditionary force. Large scale forcible entry operations may not be politically desirable but that doesn't mean the capability isn't there. Today's MEU, if required, can easily expand to a MEB level

(Figure 3)[22] or employ with Army airborne forces to ensure adequate firepower for any forcible entry operation. "...The innovative use of technology..., a willingness to take calculated risks, and a fundamental confidence in the basic concepts of amphibious warfare..."[23] will allow CINCs to bring effective combat power to bear early where it has the greatest effect in neutralizing an aggressor force. With STOVL JSF, Marine expeditionary forces will be capable, first on the scene enablers that can adapt and respond to all of a CINC's requirements.

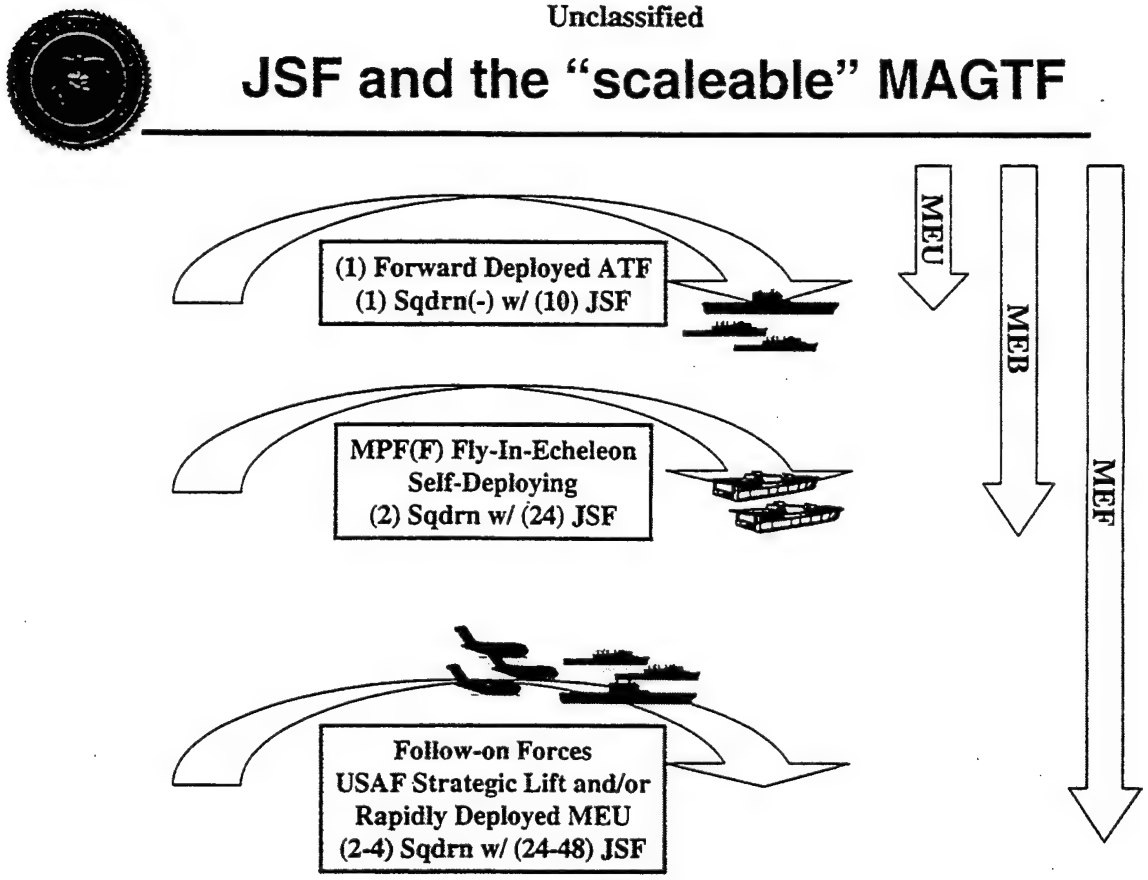


Figure 3

Is a MEU big enough?

As I have demonstrated, the addition of STOVL JSF to a MEU's arsenal has dramatically increased a CINC's response options. Detractors might argue, however, that a MEU composed of a reinforced battalion landing team and eight to ten STOVL JSFs[24] could not successfully execute the myriad of missions described in this proposal. They would say that in warfare size *does* matter. I would argue, like any good Irishman, that in light of today's threats size does not matter, capabilities do. Technological advancements and a more complex, non-linear threat have heightened the importance of rapid responsiveness and flexibility in forward deployed amphibious units. In the near future, smaller, more dispersed forces will be required to deal decisively with the changing global environment. Two recent examples demonstrate this philosophy - The USMC War Fighting Lab's Hunter Warrior experiment and observations from the Naval War College's Global War Games 2000.

The USMC advanced warfighting experiment, Hunter Warrior, occurred in March of 1997. The Warfighting Lab examined what effects a technologically advanced force would have against a numerically superior adversary on a dispersed battlefield. In the scenario, a forward deployed MAGTF attacked a larger aggressor force that had invaded a neighboring country. The MAGTF's mission was to stop further aggression and prepare the battlefield for the introduction of follow on joint forces. The experiment provided promising results and interesting insight into the future composition of forward deployed amphibious forces. The experiment showed that:

1. Small, forward afloat forces can have a significant impact on a larger force.
2. With the benefits of precision fires, enhanced targeting and advanced C4I, numerically inferior forces can dominate a dispersed battlefield.
3. New technologies are invaluable combat multipliers and can effectively extend the area of influence of a modest sea-based force.[25]

In the second example, Global War Games 2000 explored the advantages of using STOVL JSF in a large-scale regional conflict. The exercise utilized 7 small, "fast" carrier platforms to operate 49 STOVL JSF. During the "free play" portion of the exercise, the controlling team used the carriers as forward basing sites, dispersed throughout the operating area. Vice Admiral Art Cebrowski, president of the Naval War College and senior naval officer charged with the assessment of innovative concepts remarked,

> "The results were promising since dispersing TACAIR assets gives the warfighter more deck and airfield maneuvering room, which generates more sorties at a steady rate instead of relying on the CV's deck cycle."

These two examples suggest that technologically advanced, smaller forces can more easily control the battle space and defeat a much larger foe. Size doesn't matter, capabilities do.

Conclusion

Fleet introduction of the STOVL JSF will result in a marked increase in NEF capabilities and employment opportunities. The STOVL JSF's increase in firepower and functional support will allow NEF's to produce rapid power projection from the sea, operate uninhibited in the littorals and possess the ability to transition to shore based operations without cumbersome host nation support. MAGTFs as amall as a MEU will have the flexibility to project power inland to a considerable depth at the time and place of a CINC's choosing.

While amphibious forces may not yet be able to maneuver combat forces seamlessly from the sea directly to the objective (i.e., the Marine Corps' Operational Maneuver From The Sea warfighting concept), the introduction of STOVL JSF will initiate an evolution in amphibious operations. By allowing expeditionary forces to attack the entire depth and breadth of an enemies capabilities, operate effectively across the entire spectrum of warfare, and adapt quickly

and decisively to a crisis as it develops, STOVL JSF will bridge the gap between current capabilities and the future of amphibious warfare.

Notes

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